

Appl. No. 10/814,341
Amdt. Dated July 15, 2005
Reply to Office Action of February 17, 2005

Amendments to the Specification:

The following paragraphs will replace all prior versions in the specification:

Page 1, Lines 1-3

This application is a continuation of U.S. Patent application No. 09/940,400, filed August 27, 2001, now U.S. Patent 6,728,646, which is a continuation of U.S. Patent Application No. 09/027,545, filed February 23, 1998, now abandoned, both of which are incorporated herein by reference.

Page 3, Lines 16-20

Although these devices and methods are adequate for the purposes for which they are intended, these inventions do not disclose an energy information system and sub-measurement board for use therewith which monitors and provides information about individual circuits of a customer's distribution load panel and ~~which is capable of providing~~ able to provide cumulative periodic consumption data of all of the customer's metered utilities.

Page 9, Lines 6-17

In the preferred embodiment, sub-measurement board 10 is ~~capable of measuring~~ able to measure up to nine single-phase currents 52 and three 3-phase voltages 56. In addition to the nine single-phase currents 52 and three 3-phase voltages 56, sub-measurement board 10 is shown in Fig. 3 connected to the electric, gas and water meters by a line 58 which receives the electric pulses from the meters for measurement of the cumulative utility consumption from each respective meter. This instantaneous total billing load data from the electric, gas and water meters may be directly accessed by the customer on a LCD display 60 (Fig 1). The customer may use a mode key 62, function keys 64 or selection keys 66 to select and display various usage

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information such as the billing load data. Sub-measurement board 10 is enclosed within a plastic covering 68 and is mounted adjacent to and outside of distribution panel 14. A communication device 69, such as a modem, is connected to sub-measurement board 10 for supplying the load profile data to WAN 8.

Abstract

An energy information system and sub-measurement board for use therewith allows an energy information service provider to measure energy usage at a customer location. The sub-measurement board is connected to an energy distribution panel located at the customer location and measures energy usage of individual circuits of the distribution panel. The sub-measurement board outputs a load profile of the energy usage and transmits the load profile to the energy information service provider via a wide area network (WAN). The load profile is processed by the energy service provider and posted on a server for access that is accessible by the customer. The sub-measurement board ~~is capable of receiving~~ receives three three-phase voltages and nine single-phase currents. The voltages and currents are ~~input into a microprocessor circuit which compares the currents one at a time to the voltages to match the current with the voltage of the compared to the voltages and currents of the same individual circuit of the distribution panel~~ [[.]] ~~The microprocessor uses the matched currents and voltages to calculate the load profile of the individual circuits. A utility meter can be connected to the sub-measurement board and output electric pulses thereto which the sub-measurement board uses to calculate cumulative periodic consumption data of the metered utility.~~